REMARKS/ARGUMENTS

Favorable reconsideration of the present application is respectfully requested.

Claims 1-14 remain active in the application.

Claims 1 and 2 have been amended to recite the additional step of obtaining feed material comprising a mixture containing the biomass carbide and the metal oxide containing material. Basis for this is evident from the original specification.

Claims 1-14 have been rejected under 35 U.S.C. § 103 as being obvious over any one of European patent application EP 1264901; U.S. patent 3,950,267 (Arakawa et al.); or U.S. patent 4,569,691 (Fichte et al.). Applicants respectfully submit that the amended claims are patentable over the above prior art.

Initially, with respect to EP 1264901, it is noted that this reference is prior art as of its publication date of December 11, 2002. Applicants are herein submitting a English translation of their Japanese patent application 2002/296363, for which Applicants claim priority under 35 U.S.C. § 119. Since this application has a filing date of October 9, 2002, Applicants respectfully submit that EP'901 is no longer prior art with respect to the present application.

According to a feature of the claimed invention, there is provided a method for producing a feed material for molten metal production using biomass. The use of biomass in molten metal production has heretofore been problematic because of excess water in the biomass, problems inherent in the agglomeration and pulverization of the biomass, and differences in specific gravity for the biomass and metal oxide (see paragraph bridging pages 4-5).

According to a feature of the invention, a feed material for molten metal production includes a step of heating a mixture containing metal oxide containing material and biomass to carbonize the biomass in the mixture in a heating furnace substantially isolated from oxygen. By heating the mixture in a heating furnace substantially isolated from oxygen, combustion of the biomass can be minimized.

Concerning the rejection based on the Arakawa et al., it is noted that Arakawa is directed to a process for producing an activated carbon *in which* ***air or oxygen containing gas is blown*** *into the rotary furnace during the carbonization of the organic material* (column 3, lines 20-22; column 4, lines 38-40). Arakawa et al. therefore does not disclose heating a mixture including a biomass to carbonize the biomass in a heating furnace **substantially isolated from oxygen**. Moreover, this would not have been obvious from Arakawa et al. since it is *opposite* to the explicit disclosure thereof.

Fichte et al. discloses a method of making ferroboron and ferroborosilicon alloys using a shaft furnace. In order to reduce the metal oxides at low temperature, the metal oxides and carbon material including biomass are introduced into a melting furnace to form a burden 24 composed of a column of finely divided material. Electrodes at the lower end of the shaft furnace generate heat to melt the metal in the burden, thereby releasing carbon monoxide gas which can aid in the reduction of the metal oxide in the overlying portion of the burden.

The burden 24 can include biomass in the form of wood or charcoal granules and chunks, wood chips and sawdust (column 5, lines 38-40), which materials are carbonized by the heat within the burden. Thus, Fichte et al. discloses a step of heating a mixture containing metal oxide containing materials and biomass to carbonize the biomass. However this does not produce a feed material in a heating furnace substantially isolated from oxygen. Claims 1-4 therefore define over all of the aforementioned references.

Claim 2 also recites heating a mixture containing a metal oxide containing material and biomass to carbonize the biomass in a heating furnace substantially isolated from oxygen. The above remarks therefore also apply to Claim 2.

Claims 4, 8 and 13 further recite the step of agglomerating the feed material before the feed material is fed into the melting furnace. In this regard, it is noted that a feed material is defined throughout the claims as material which has already been heated in the heating furnace to carbonize the biomass and is fed to a melting furnace. The Examiner has noted that Fichte et al. discloses that "the charge" may consist of agglomerates (Claim 6 of Fichte et al.). However, it is noted that the "charge" in this case is biomass prior to its carbonization. The agglomeration of materials being fed for carbonization would not teach or suggest a step of agglomerating carbonized biomass and a metal oxide containing material from a heating furnace which is to be charged into a melted furnace. For this reason as well, Claims 4, 8 and 13 define over the above references.

Concerning the rejection under 35 U.S.C. § 112, it is noted that the use of the term "feed material" has been clarified in Claims 1 and 2. Concerning the agglomeration in Claims 4, 8 and 13, Applicants submit that the scope of these claims would be clear to those skilled in the art under 35 U.S.C. § 112. For example, Claim 4 simply recites a step of agglomerating the mixture between a step of carbonizing the biomass contained in the mixture and a step of charging the mixture in a reducing furnace. Applicants fail to see the basis for the alleged lack of clarity of this claim.

With respect to the Information Disclosure Statement filed on January 5, 2004, it is noted that the co-pending applications are not themselves are not prior art but have been submitted for the Examiner's information.

Applicants therefore believe that the present application is in condition for allowance and respectfully solicit an early notice of allowability.

Respectfully submitted,

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